

AMENDMENTS TO THE CLAIMS

1 1. (Currently Amended) A computer system to provide one or more product
2 selections to a user in accordance with an analysis of user needs, the computer system
3 comprising:
4 a database ~~to store pre-generated product configurations and~~ storing product
5 configuration information, wherein the product configuration information
6 comprises product ~~features~~ attribute information and pre-generated product
7 configurations, and ~~product rules governing allowable combinations of the~~
8 ~~product features~~;
9 a memory;
10 a processor coupled to the memory and the database;
11 a data receiving module, stored in the memory, to receive product related data from the
12 user through a communication link coupled between a data processing system of
13 the user and the data receiving module, wherein the product related data is a
14 member of a group of information types comprising product attribute information
15 and product identifier information;
16 a needs analysis module, stored in the memory, to process the received product related
17 data and to determine which type of information is included in the received
18 product related data;
19 a filter service module, stored in the memory, to process product attribute information
20 received by the needs analysis module, ~~if the product related data is attribute~~
21 ~~information, the received product related data~~ in accordance with the product
22 configuration information stored in the database ~~and~~ in order to identify one or
23 more of the pre-generated product configurations stored in the database that meet
24 requirements of the received product attribute information;
25 a configuration service module, stored in the memory, to process product identifier
26 information received by the needs analysis module to identify one or more of the
27 pre-generated product configurations stored in the database that corresponds to
28 the received product related data, ~~if the product related data is product identifier~~
29 ~~information~~; and

30 a presentation module, stored in the memory, to provide ~~each identified pre-generated~~
31 ~~product configuration and~~ each identified pre-generated product configuration to
32 the user via the communication link.

1 2. (Previously Presented) The computer system of claim 1 further comprising:
2 a software configuration engine stored in the memory to generate the pre-generated
3 product configurations.

1 3. (Currently Amended) The computer system of claim 1 wherein the data
2 receiving module is further configured to receive data indicating a user selected product,
3 wherein the selected product corresponds to one of the identified pre-generated product
4 configurations, and the data receiving module is further configured to receive product
5 configuration selections from the user to further configure the selected product, the computer
6 system further comprising:

7 a software configuration engine, stored in the memory, to generate configured product
8 data corresponding to the product configuration selections associated with the
9 selected product and in accordance with the product configuration information;
10 and

11 wherein the presentation module is further configured to present the configured product
12 data to the user via the communication link.

13 4. (Currently Amended) The computer system of claim 3 1, wherein
14 said filter service module is further configured to provide a product identifier to said
15 needs analysis module in response to attribute information received from said
16 needs analysis module,
17 said product identifier identifies a pre-generated product configuration, and
18 said attribute information is an attribute of said pre-generated product configuration.

1 5. (Previously Presented) The computer system of claim 4, wherein
2 said filter service module is further configured to use said attribute information to retrieve
3 said product identifier from said database.

1 6. (Currently Amended) The computer system of claim 1, wherein said

2 database contains product identifier information that identifies each pre-generated product
3 configuration and reference data that links the product attribute information to a pre-generated
4 product configuration.

1 7. (Currently Amended) The computer system of claim 6, wherein said
2 database comprises:

3 a configuration table ~~to store~~ storing the pre-generated product configurations; and
4 an attribute table storing the product attribute information.

1 8. (Currently Amended) The computer system of claim 7, wherein said
2 configuration table contains said product identifier information and ~~said attribute table~~
3 ~~contains said attribute information.~~

1 9. (Currently Amended) The computer system of claim 7, wherein
2 said attribute table comprises an attribute record comprising an attribute field containing
3 said attribute information, and an intersection field containing a reference to ~~said~~
4 ~~configuration record~~ at least one of the pre-generated product configurations, and
5 said configuration table comprises a configuration record comprising a configuration
6 field containing said pre-generated product configurations; and an identifier field
7 containing said product identifier information.

1 10. (Currently Amended) The computer system of claim 9, wherein
2 each pre-generated product configuration describes a configuration of a product that is
3 allowable product configurations in accordance with product rules governing
4 allowable combinations of product attributes,
5 said attribute information describes an attribute of said product, and
6 said pre-generated product configuration of said product includes said attribute of said
7 product.

1 11. (Currently Amended) The computer system of claim 9, wherein
2 said needs analysis module is configured to access said product configuration information
3 ~~by virtue of said needs analysis module being configured to supply said attribute~~
4 ~~information to~~ through said filter service module, and

5 ~~said filter service module is configured to access said database by virtue of being~~
6 ~~configured to access said database using said attribute information.~~

1 12. (Previously Presented) The computer system of claim 9, wherein
2 said reference allows said filter service module to access said configuration record by
3 virtue of said filter service module being configured to access said attribute record
4 using said attribute information.

5
1 13. (Currently Amended) The computer system of claim 1, wherein said
2 needs analysis module is configured to permit identification of a at least one of the pre-
3 generated product configuration configurations based on product identifier information.

1 14. Canceled.

1 15. (Previously Presented) The computer system of claim 1, wherein said
2 configuration service module is configured to provide a configuration list to said needs
3 analysis module in response to a product identifier received from said needs analysis module.

1 16. (Previously Presented) The computer system of claim 15, wherein
2 said configuration list is a list of available features of said product.

1 17. (Previously Presented) The computer system of claim 15, wherein
2 said configuration list is a list of configurations of said product.

1 18. (Previously Presented) The computer system of claim 15, wherein
2 said configuration service is configured to use said product identifier to generate said
3 configuration list from information stored in said database.

1 19. (Currently Amended) The computer system of claim ~~14~~ 1, wherein
2 said database contains product identifier information.

1 20. (Previously Presented) The computer system of claim 19, wherein said
2 database comprises:
3 a configuration table containing said product identifier information and said configuration
4 information.

1 21. (Currently Amended) The computer system of claim 20, wherein
2 said needs analysis module is configured to access said pre-generated product
3 configuration information ~~by virtue of said needs analysis module being~~
4 ~~configured to supply~~ through said product identifier information to said
5 configuration service module, and
6 said configuration service module is configured to access said database by virtue of being
7 configured to access said database using said product identifier information.

1 22. (Currently Amended) The computer system of claim 20, wherein said
2 configuration table comprises a configuration record comprising
3 a configuration field containing said pre-generated product ~~configuration~~
4 ~~information~~ configurations, and
5 an identifier field containing said product identifier information.

1 23. (Previously Presented) The computer system of claim 22, wherein
2 said pre-generated product ~~configuration information~~ configurations describes a
3 ~~configuration of said product~~ describes a product previously configured and saved
4 by the user, and
5 said product identifier information identifies said configuration of said product.

1 24. (Currently amended) A computer program product encoded in a
2 computer readable medium, the computer program product comprising code executable on a
3 computer system to provide one or more product selections to a user in accordance with an
4 analysis of user needs, the code comprising instructions to:
5 receive product related data from the user through a communication link coupled between
6 a data processing system of the user and the computer system, wherein the
7 product related data is a member of a group of information types comprising
8 attribute information and product identifier information;
9 process the received product related data;
10 determine which type of information is included in the received product related data;
11 process, if the product related data is attribute information, the received product related
12 data in accordance with product configuration information ~~and~~ in order to identify

one or more of the pre-generated product configurations stored in a database that meet requirements of the received attribute information, ~~wherein the product configuration information comprises product features and product rules governing allowable combinations of the product features;~~
identify one or more of the pre-generated product configurations that corresponds to the received product related data, if the product related data is product identifier information; and
provide ~~each identified product configuration and~~ each identified pre-generated product configuration to the user via the communication link.

25. (Previously Presented) The computer program product of claim 24, wherein the code further comprises code to permit identification of a product based on attribute information.

26. (Currently amended) The computer program product of claim 24, wherein the code further comprises code to:
receive data indicating a user selected product, wherein the selected product corresponds to one of the identified pre-generated product configurations;
receive product configuration selections from the user to further configure the selected product;
generate configured product data corresponding to the product configuration selections associated with the selected product and in accordance with ~~the product configuration information~~ product rules stored in a memory that govern allowable combinations of the product features; and
provide the configured product data to the user via the communication link.

27. (Currently Amended) The computer program product of claim 26, wherein the code further comprises code to:
provide a product identifier to said needs analysis module in response to attribute information,
said product identifier identifies a at least one of the pre-generated product configuration,
and

18 said attribute information is an attribute of said product.

1 28. (Previously Presented) The computer program product of claim 27,
2 wherein the code further comprises code to:
3 use said attribute information to retrieve said product identifier from said database.

1 29. (Currently Amended) The computer program product of claim 26 further
2 comprises a data structure, the data structure comprising information resident in a said
3 database, the information comprising:
4 product identifier information associated with each pre-generated product configuration
5 and reference data that links the product attribute information to a pre-generated
6 product configuration.

1 30. (Currently Amended) The computer program product of claim 29,
2 wherein said data structure further comprises:
3 a configuration table ~~to store~~ storing the pre-generated product configurations, and
4 an attribute table to store the product attribute information.

1 31. (Previously Presented) The computer program product of claim 30,
2 wherein
3 said configuration table contains said product identifier information said attribute table
4 contains said attribute information.

1 32. (Currently Amended) The computer program product of claim 30,
2 wherein
3 said attribute table comprises an attribute record comprising an attribute field containing
4 said attribute information, and an intersection field containing a reference to ~~said~~
5 ~~configuration record~~ at least one of the pre-generated product configurations, and
6 said configuration table comprises a configuration record comprising a configuration
7 field containing said pre-generated product configurations, and an identifier field
8 containing said product identifier information.

1 33. (Currently Amended) The computer program product of claim 32,
2 wherein each pre-generated product configuration describes a configuration of a product that

3 is allowable product configurations in accordance with product rules governing allowable
4 combinations of product attributes;

5 said attribute information describes an attribute of said product, and
6 said pre-generated product configuration of said product includes said attribute of said
7 product.

1 34. (Currently Amended) The computer program product of claim 32,
2 wherein the code is ~~further configured~~ further comprises code to:
3 access said pre-generated product configuration identifier information ~~product~~
4 ~~configuration information by virtue of supplying~~ using said attribute information-
5 ~~to said filter service, and~~
6 ~~access said database by virtue of being configured to access said database using said~~
7 ~~attribute information.~~

1 35. (Previously Presented) The computer program product of claim 32,
2 wherein
3 said reference allows the code to access said configuration record by accessing said
4 attribute record using said attribute information.

1 36. Canceled.

1 37. (Previously Presented) The computer program product of claim 24,
2 wherein said code further comprises code to permit identification of a product configuration
3 based on product identifier information.

1 38. Canceled.

1 39. (Currently Amended) The computer program product of claim 24,
2 wherein the code further comprises a needs analysis module.

1 40. (Previously Presented) The computer program product of claim 39,
2 wherein said code further comprises code to:
3 provide a configuration list to said needs analysis module in response to a product
4 identifier received from said needs analysis module.

1 41. (Previously Presented) The computer program product of claim 40,
2 wherein
3 said configuration list is a list of available features of said product.

1 42. (Previously Presented) The computer program product of claim 40,
2 wherein said configuration list is a list of configurations of said product.

1 43. (Previously Presented) The computer program product of claim 40,
2 wherein said code further comprises code to:
3 use said product identifier to generate said configuration list from information stored in
4 said database.

1 44. (Canceled).

1 45. (Previously Presented) The computer program product of claim 29 ,
2 wherein said data structure further comprises:
3 a configuration table containing said product identifier information.

1 46. (Previously Presented) The computer program product of claim 45,
2 wherein said code further comprises code to:
3 access said configuration information by virtue of supplying said product identifier
4 information to a configuration service, and
5 access said database by virtue of being configured to access said database using said
6 product identifier information.

1 47. (Previously Presented) The computer program product of claim 45,
2 wherein
3 said configuration table comprises a configuration record comprising a configuration
4 field containing said pre-generated product configurations, and an identifier field
5 containing said product identifier information.

1 48. (Currently Amended) The computer program product of claim 47,
2 wherein
3 said configuration information describes a configuration of said product that is allowable

4 product configurations in accordance with product rules governing allowable
5 combinations of product attributes, and
6 said product identifier information identifies said pre-generated configuration of said
7 product.

1 49. (Canceled).

1 50. (Canceled).

1 51. (Currently Amended) A method to provide one or more product selections
2 to a user in accordance with an analysis of user needs, the method comprising:
3 receiving product related data from the user through a communication link coupled
4 between a data processing system of the user and a computer system, wherein the
5 product related data is a member of a group of information types comprising
6 attribute information and product identifier information;
7 processing the received product related data using resources of the computer system;
8 determining which type of information is included in the received product related data;
9 processing, if the product related data is attribute information, the received product
10 related data in accordance with product configuration information ~~and~~ in order to
11 identify one or more of the pre-generated product configurations stored in a
12 database that meet requirements of the received attribute information, ~~wherein the~~
13 ~~product configuration information comprises product features and product rules~~
14 ~~governing allowable combinations of the product features;~~
15 identifying one or more of pre-generated product configurations that corresponds to the
16 received product related data, if the product related data is product identifier
17 information; and
18 providing ~~each identified product configuration and~~ each identified pre-generated product
19 configuration to the user via the communication link.

1 52. (Currently Amended) The method of claim 51, wherein
2 said product identifier information ~~is associated with a product configuration~~ identifies
3 pre-generated product configurations, and
4 said pre-generated product configuration represents a product having an attribute

represented in said attribute information.

53. (Previously Presented) The method of claim 52, further comprising:
causing a needs analysis module to provide said attribute information to a filter service;
and
causing said filter service to return said product identifier information to said needs
analysis module.

54. (Currently Amended) The method of claim 51, further comprising:
querying a database of said computer system, wherein querying said database comprises:
accessing an attribute table of said database using said attribute information;
identifying at least one product identifier information in a database record
comprising the product identifier and said attribute information; and
accessing said product identifier information in a configuration table of said
database ~~using a reference in said attribute table associated with a record~~
~~of said attribute table accessed using said attribute~~ to identify a pre-
generated product configuration associated with said attribute information.

55. (Currently Amended) The method of claim 54, wherein
said product identifier information is associated with a said pre-generated product
~~configuration~~ configurations, and
each of said pre-generated product configuration configurations represents a product
having said attribute.

56. (Currently Amended) The method of claim 55, wherein
said configuration table comprises said pre-generated product configuration
configurations.

57. (Previously Presented) The method of claim 51 further comprising:
providing said product identifier information to a configuration service;
identifying said pre-generated product configuration corresponding to said product
identifier information by causing said configuration service to query a database
using said product identifier information; and

6 causing said configuration service to return said identified pre-generated product
7 configuration.

1 58. (Previously Presented) The method of claim 57, wherein said product
2 identifier information is associated with a pre-generated product configuration in said
3 database.

1 59. (Previously Presented) The method of claim 58, further comprising:
2 causing a needs analysis module to provide said product identifier information to said
3 configuration service; and
4 causing said configuration service to return said pre-generated product configuration to
5 said needs analysis module.

1 60. (Previously Presented) The method of claim 57, wherein said querying said
2 database comprises:
3 accessing a configuration table of said database using said product identifier information
4 to identify said pre-generated product configuration.

1 61. (Previously Presented) The method of claim 60, wherein
2 said pre-generated product configuration is associated with said product identifier
3 information.

1 62. (Currently Amended) The method of claim 51 further comprising:
2 receiving data indicating a user selected product, wherein the selected product
3 corresponds to one of the identified pre-generated product configurations;
4 receiving product configuration selections from the user to further configure the selected
5 product;
6 generating configured product data corresponding to the product configuration selections
7 associated with the selected product and in accordance with the product
8 configuration information; and
9 providing the configured product data to the user via the communication link.

1 63. (Cancelled)

1 64. (Previously Presented) The method of claim 51, wherein said product
2 related data includes data related to a vehicle.

1 65. (Previously Presented) The method of claim 64, wherein said product
2 configuration selections comprise a make of said vehicle.

1 66. (Previously Presented) The method of claim 64, wherein said product
2 configuration selections comprise a model of said vehicle.

1 67. (Previously Presented) The method of claim 64, wherein said product
2 configuration selections comprise a trim level of said vehicle.

1 68. (Previously Presented) The method of claim 64, wherein said product
2 configuration selections comprise an equipment level of said vehicle.

1 69. (Currently Amended) The method of claim 64, wherein said product
2 configuration selections comprise is one of a price range, a vehicle type, an engine type, a fuel
3 economy, an interior feature and a safety feature.

1 70. (Currently Amended) An apparatus to provide one or more product selections
2 to a user in accordance with an analysis of user needs, the apparatus comprising:

3 means for receiving product related data from the user through a communication link
4 coupled between a data processing system of the user and a computer system,
5 wherein the product related data is a member of a group of information types
6 comprising attribute information and product identifier information;

7 means for processing the received product related data using resources of the computer
8 system;

9 means for determining which type of information is included in the received product
10 related data;

11 means for processing, if the product related data is attribute information, the received
12 product related data in accordance with product configuration information ~~and in~~
13 order to identify one or more of the pre-generated product configurations stored in
14 a database that meet requirements of the received attribute information, ~~wherein~~

15 ~~the product configuration information comprises product features and product~~
16 ~~rules governing allowable combinations of the product features;~~
17 means for identifying one or more of pre-generated product configurations that
18 corresponds to the received product related data, if the product related data is
19 product identifier information; and
20 means for providing ~~each identified product configuration and~~ each identified pre-
21 generated product configuration to the user via the communication link.

1 71. (Currently Amended) The apparatus of claim 70 further comprising:
2 means for receiving data indicating a user selected product, wherein the selected product
3 corresponds to one of the identified pre-generated product configurations;
4 means for receiving product configuration selections from the user to further configure
5 the selected product;
6 means for generating configured product data corresponding to the product configuration
7 selections associated with the selected product and in accordance with the product
8 configuration information; and
9 means for providing the configured product data to the user via the communication link.

1 72. (Previously Presented) The apparatus of claim 70 wherein the product related
2 data includes data related to a vehicle.

1 73. (Previously Presented) The computer system of claim 1 wherein the product
2 related data includes data related to a vehicle.

1 74. (Previously Presented) The computer program product of claim 24 wherein the
2 product related data includes data related to a vehicle.